

CLAIMS

What is claimed is:

1. A method comprising:
partitioning a cover image;
generating a key;
inserting a watermark symbol into the cover image utilizing a Walsh transform and the key; and
extracting the watermark symbol from the cover image utilizing a Walsh transform and the key.
2. The method of claim 1, wherein generating the key includes generating a pseudo-random number.
3. The method of claim 2, wherein the key is a private key.
4. The method of claim 1, wherein the watermark symbol is a logo.
5. The method of claim 1, wherein partitioning a cover image includes partitioning the cover image into non-overlapping blocks of equal size.
6. The method of claim 5, further comprising:
defining blocks having small variance values as homogenous blocks;
and
defining blocks having mid-variance values as mid-variance blocks.
7. The method of claim 6, further comprising:
spatially dispersing the watermark symbol utilizing the key; and
selecting homogenous blocks and mid-variance blocks.
8. The method of claim 7, wherein inserting the watermark symbol into the cover image utilizing a Walsh transform and the key includes inserting bits of the spatially dispersed watermark symbol into the homogenous and mid-variance blocks of the cover image utilizing a Walsh transform.

9. The method of claim 8, wherein extracting the watermark symbol from the cover image includes extracting bits of the spatially dispersed watermark symbol from the homogenous and mid-variance blocks of the cover image utilizing a Walsh transform and the key.

10. An apparatus comprising:
an integrated circuit; and
a processor included with the integrated circuit to implement operations including:
partitioning a cover image;
generating a key;
inserting a watermark symbol into the cover image utilizing a Walsh transform and the key; and
extracting the watermark symbol from the cover image utilizing a Walsh transform and the key.

11. The apparatus of claim 10, wherein generating the key includes generating a pseudo-random number utilizing a shift-register circuit.

12. The apparatus of claim 11, wherein the key is a private key.

13. The apparatus of claim 10, wherein the watermark symbol is a logo.

14. The apparatus of claim 10, wherein partitioning a cover image includes partitioning the cover image into non-overlapping blocks of equal size.

15. The apparatus of claim 14, wherein the processor further performs the operations of:
defining blocks having small variance values as homogenous blocks;
and
defining blocks having mid-variance values as mid-variance blocks.

16. The apparatus of claim 15, wherein the processor further performs the operations of:

spatially dispersing the watermark symbol utilizing the key; and
selecting homogenous blocks and mid-variance blocks.

17. The apparatus of claim 16, wherein inserting the watermark symbol into the cover image utilizing a Walsh transform and the key includes inserting bits of the spatially dispersed watermark symbol into the homogenous and mid-variance blocks of the cover image utilizing a Walsh transform.

18. The apparatus of claim 17, wherein extracting the watermark symbol from the cover image includes extracting bits of the spatially dispersed watermark symbol from the homogenous and mid-variance blocks of the cover image utilizing a Walsh transform and the key.

19 A machine-readable medium having stored thereon instructions, which when executed by a machine, cause the machine to perform the following operations comprising:

partitioning a cover image;
generating a key;
inserting a watermark symbol into the cover image utilizing a Walsh transform and the key; and
extracting the watermark symbol from the cover image utilizing a Walsh transform and the key.

20. The machine-readable medium of claim 19, wherein generating the key includes generating a pseudo-random number.

21. The machine-readable medium of claim 20, wherein the key is a private key.

22. The machine-readable medium of claim 19, wherein the watermark symbol is a logo.

23. The machine-readable medium of claim 19, wherein partitioning a cover image includes partitioning the cover image into non-overlapping blocks of equal size.

24. The machine-readable medium of claim 23, further comprising:
defining blocks having small variance values as homogenous blocks;
and
defining blocks having mid-variance values as mid-variance blocks.
25. The machine-readable medium of claim 24, further comprising:
spatially dispersing the watermark symbol utilizing the key; and
selecting homogenous blocks and mid-variance blocks.
26. The machine-readable medium of claim 25, wherein inserting the watermark symbol into the cover image utilizing a Walsh transform and the key includes inserting bits of the spatially dispersed watermark symbol into the homogenous and mid-variance blocks of the cover image utilizing a Walsh transform.
27. The machine-readable medium of claim 26, wherein extracting the watermark symbol from the cover image includes extracting bits of the spatially dispersed watermark symbol from the homogenous and mid-variance blocks of the cover image utilizing a Walsh transform and the key.
28. A system comprising:
a first image processor to perform operations including:
partitioning a cover image;
generating a key;
inserting a watermark symbol into the cover image utilizing a Walsh transform and the key; and
a second image processor to perform operations including extracting the watermark symbol from the cover image utilizing a Walsh transform and the key.
29. The system of claim 28, wherein generating the key includes generating a pseudo-random number utilizing a shift-register circuit.
30. The system of claim 29, wherein the key is a private key.
31. The system of claim 28, wherein the watermark symbol is a logo.

32. The system of claim 28, wherein partitioning a cover image includes partitioning the cover image into non-overlapping blocks of equal size.

33. The system of claim 32, wherein the first image processor further performs the operations of:

defining blocks having small variance values as homogenous blocks;

and

defining blocks having mid-variance values as mid-variance blocks.

34. The system of claim 33, wherein the first image processor further performs the operations of:

spatially dispersing the watermark symbol utilizing the key; and

selecting homogenous blocks and mid-variance blocks.

35. The system of claim 34, wherein inserting the watermark symbol into the cover image utilizing a Walsh transform and the key includes inserting bits of the spatially dispersed watermark symbol into the homogenous and mid-variance blocks of the cover image utilizing a Walsh transform.

36. The system of claim 35, wherein extracting the watermark symbol from the cover image includes extracting bits of the spatially dispersed watermark symbol from the homogenous and mid-variance blocks of the cover image utilizing a Walsh transform and the key.